

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

TITLE V PROPOSED PERMIT NO. V-99-020

FLORIDA TILE INDUSTRIES, INCORPORATED

LAWRENCEBURG, KY.

MAY 9, 2000

JAMES A. NEAL & ROBERT L. WILLIAMS, REVIEWERS

PLANT I.D. # 102-0060-0008

APPLICATION LOG # F455

SOURCE DESCRIPTION:

This source manufactures ceramic tiles by combining clay, talc, and pyrophyllite. The raw materials are stored in six silos that are loaded pneumatically from railcars. Of the six silos, two hold talc, two hold clay, and two hold pyrophyllite. Each generates particulate matter when loaded and the emissions are controlled by separate baghouses with efficiencies above 98%. The materials are conveyed to the body preparation area. Silos system # 1, # 3 and # 6 consists of a silo, gyrator screen, weigh hopper and screw conveyer. Silo system # 2 consists of a silo, 2 gyrator screens, 2 weigh hoppers, a belt conveyer and a screw conveyer. Silo system # 4 consists of a silo, 2 gyrator screens, 2 weigh hoppers, a belt conveyer and a screw conveyer. Silo system # 5 consists of a silo, a gyrator screen and weigh hopper. The raw material batching station consists of a six-belt conveyer system; fast fire and traditional body mixer systems; fast fire and traditional body rework systems; and fast fire and traditional body pneumatic press feeder systems. After the raw materials are sieved by one of the screens, they are mixed with water in one of the Eirich mixers and any damaged greenware tiles are added from the two rework systems. Once mixed, the tile bodies are stored in two wet storage units until processed into tiles.

Six ball mills are used to mix the glaze for the tiles. The weighed, raw materials to make the glaze are added to one of the six large ball mills where the ingredients are ground, screened, and mixed with water. Once prepared, the glaze is transferred into a storage container. When the glaze is needed on a coating line, it is agitated and conveyed to the line.

The tile body is transferred to tile presses through one of the pneumatic press feeders. Five lines press the tiles. A typical tile process line consists of tile press(s), tile brush(es), glaze coater(s) and kiln(s). The presses press the tile body into tiles. Line brushes are used to remove any particles on the tiles before they are coated with glaze.

Cleaned tiles are conveyed to the glaze preparation where one or more glazes may be added to the tile through various coating operations. Glazed tiles are fired in one of five kilns. The kilns are direct fired and use natural gas with liquid propane backup. An additional sixth kiln is used to cure decals placed on some of the tiles, and has VOC emissions due to the fixative used to place the decals on the tiles. Emissions include the products of combustion plus particulate and HF emissions from the body of the tile.

COMMENTS:

Pursuant to permit application, Log # F948, the addition of glaze roller applicators identified as company emissions points 71 and 72, respectively, have been added to Lines 1 and 5. Particulates and condensable particulates will be emitted from each respective kiln preheater. The three disc glaze applicators are considered insignificant activities, and have been added to the insignificant section of the Title V permit. Written and oral comments from Florida Tile on July 15 and July 21, 1999, respectively, indicated that the Kiln Roller Cleaner and Vacuum Dust Collector System should have been and are now listed under Insignificant Activities. The Polyethylene Glycol Roll Coater Applicators which were constructed in December 1998, and for which a “no permit required” letter (NPR) was issued, have been added to the Title V permit under Lines #1 and #5. These applicators are used in production of the Minor’s Mark Tile product line.

Type of control and efficiency:

Baghouses with an efficiencies greater than 98% are used to control particulate emissions from the emission points discussed above, with the exception of the tile dryers and tile kilns.

Emission factors and their source:

Particulate emissions from body and glaze preparation including storing, conveying and coating are based on emission factors in AP-42. Particulate and HF emissions from the kilns are based on emission factors determined from a stack test performed in January 1999. An ISCST3 model was run to determine the maximum impact concentration of HF. This modeling indicates compliance with the HF ambient air quality standard by venting Kilns # 1, 2 and 5 to their respective existing 38-ft stack, and Kilns # 3 and 4 to an existing 140-ft stack.

Applicable regulations:

401 KAR 59:010, New process operations;
401 KAR 53:010, Ambient air quality standards;
401 KAR 63:020, Potential hazardous matter or toxic substances; and
401 KAR 61:020, Existing process operations.

112(g) Applicability:

The potential emissions of the hazardous air pollutant, hydrogen fluoride (HF), are 44.92 tons per year. However, the source will not be subject to a case-by-case MACT determination since there are no emission increases due to new construction or reconstruction.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has not incorporated these provisions in its air quality regulations.

RESPONSE TO COMMENTS:

The public notice appeared in **The Anderson News**, on June 16, 1999. The source commented on the draft permit in a letter received by the division on July 13, 1999. There were no other comments from the public or U.S.EPA.

The following is a summary of the comments received from the source followed by the division's response.

Comment #1: Page 4 of 39, Compliance Demonstration Method – The Department indicates that the “Hourly Emission Rate” will be the “Monthly processing rate x Emission Factor as determined from the latest stack test / Hours of operation per month.” With the exception of a couple of HF stack tests on the kilns, Florida Tile has not performed stack tests at the Lawrenceburg facility. Does the Department intend to require Florida Tile to perform additional stack testing? If so, on what units and when?

Response: Permit conditions do require additional testing of kilns for hydrogen fluoride emissions but not particulate. The division always has the option of requesting that stack tests be done on selected equipment for a given pollutant. The emission factor to be used to determine compliance is that indicated in the EIS which have been initially set based on the permit application and division judgement. If the source does stack testing or submits additional data, the EIS will be undated if the division approves the results. The appropriate change has been made to permit.

Comment #2: Page 4 of 39, Specific Monitoring Requirements, Condition 4.a.ii. – For the monthly hours of operation of each silo, does the Department want Florida Tile to monitor and maintain records on input into the silo, drawdown, or both?

Response: Records should be maintained on “input.” The change has been incorporated into the Title V permit.

Comment #3: Page 4 of 39, Specific Monitoring Requirements, Condition 4.c. – Please specify which baghouses must be maintained with monitoring devices so that static pressure drop can be determined once a day? The Department has specified the silo bin vent filters as baghouses. Do these units require monitoring devices and daily pressure drop readings? Must internal dust collectors have monitoring devices and daily pressure drop readings?

Response: A monitor is required for every control device or baghouse to obtain the daily pressure drop readings. Periodic monitoring of pressure drop across the control device is the approach chosen for the type of control device in operation. Since the production building is under negative pressure, the dust collectors or baghouses vented within the building still require daily monitoring of pressure drop readings to ensure proper operation of the process and control equipment. Dust collectors problems or broken bags which vent inside a building should be repaired within a given work shift. Dust collectors or baghouses vented outside the building require daily monitoring also. Requirements for monitoring silos and/or silo bin vent filters or accessing unsafe facilities including control devices, or baghouses shall be up to the discretion of the regional environmental inspector. The condition in the permit has been clarified.

Comment #4: Page 5 of 39, Specific Recordkeeping Requirements, Condition 5.d.v. – The condition specifies Florida Tile’s notification obligation “should visible emissions persist.” Florida Tile is unclear as to the definition of “persist.” What time period would trigger a notification obligation?

Response: “Persist” has been removed from the permit and a reference to General Condition F.6 of the permit under has been added.

Comment #5: Page 6 of 39, Compliance Demonstration Method – See Comment 1.

Response: Please refer to the response given under Response #1.

Comment #6 Page 7 of 39, Specific Monitoring Requirements, Condition 4.c. – Florida Tile requests that the Department specifies which baghouses require monitoring devices and daily pressure drop readings?

Response: Please refer to the response given under Response #3.

Comment #7 Page 8 of 39, Specific Recordkeeping Requirements, Condition 5.d.v. – See Comment 4.

Response: Please refer to the response given under Response #4.

Comment: #8 Page 9 of 39, Compliance Demonstration Method – See Comment 1.

Response: Please refer to the response given under Response #1.

Comment Page 10 of 39, Specific Monitoring Requirements (Third paragraph) – See Comment 6.

Response: Please refer to the response given under Response #6.

Comment #10 Page 11 of 39, Specific Recordkeeping Requirements, Condition 5.d.v. – See Comment 4.

Response: Please refer to the response given under Response #4.

Comment #11 Page 13 of 39, Compliance Demonstration Method – See Comment 1.

Response: Please refer to the response given under Response #1.

Comment #13 Page 14 of 39, Specific Monitoring Requirements, Condition 4.c – See Comment 6.

Response: Please refer to the response given under Response #6.

Comment #14 Page 14 of 39, Specific Recordkeeping Requirements, Condition 5.d.v. – See Comment 4.

Response: Please refer to the response given under Response #4.

Comment #15 Page 15 of 39, Compliance Demonstration Method – See Comment 1.

Response: Please refer to the response given under Response #1.

Comment #16 Page 16 of 39, Specific Monitoring Requirements (Third paragraph) – See Comment 6.

Response: Please refer to the response given under Response #6.

Comment #17 Page 17 of 39, Specific Recordkeeping Requirements, Condition 5.d.v. – See Comment 4.

Response: Please refer to the response given under Response #4.

Comment #18 Page 18 of 39, Compliance Demonstration Method – See Comment 1.

Response: Please refer to the response given under Response #1.

Comment #19 Page 19 of 39, Specific Monitoring Requirements (Third paragraph) – See Comment 6.

Response: Please refer to the response given under Response #6.

Comment #20 Page 20 of 39, Specific Recordkeeping Requirements, Condition 5.d.v. – See Comment 4.

Response: Please refer to the response given under Response #4.

Comment #21 Page 21 of 39, Compliance Demonstration Method – For the “Hours of operation,” do you want us to use the number of hours of dumping dry material into the batch hopper, or the total number of hours of operation in glaze preparation, which would include unloading the dry raw materials into the ball mills and the actual milling time?

Response: “Hours of operation” means that anytime a facility is in operations and generating emission pollutants such as particulate (PM10) or has the potential to generate such pollutants. The permit language has been clarified.

Comment #22 Page 21 of 39, Compliance Demonstration Method – See Comment 1.

Response: Please refer to the response given under Response #1.

Comment #23 Page 22 of 39, Specific Recordkeeping Requirements, Condition 5.d.v. – See Comment 4.

Response: Please refer to the response given under Response #4.

Comment #24 Page 24 of 39 - There was early indication from the Department that the Kiln Roller Cleaner and the Vacuum Dust Collector System would be reclassified as insignificant sources. Is their inclusion on the Miscellaneous Activities list in error or has the Department's re-thought its position on those emission units?

Response: Insignificant activities have to meet the specifications of and be certified on Form DEP7007DD, Insignificant Activities as part of the application. Insignificant activities can add to the insignificant activities section of the permit any time the form is submitted. After review by the division of the emissions from these two operations, they have been added to the insignificant activities section of the permit.

Comment #25 Page 24 of 39, Compliance Demonstration Method – See Comment 1.

Response: These two operations were moved to the insignificant activities section of the permit, therefore this comment is no longer applicable.

Comment #26 Page 25 of 39, Specific Monitoring Requirements, Condition (Second paragraph) –There are 30 or more pickup points tied into the vacuum dust collector system. Tracking the monthly hours of operation for each pickup point is burdensome. Moreover, many of these pickup points will be tracked under different conditions of the Title V permit (e.g., the presses). Florida Tile requests that the Department only require the company to track the monthly hours of operation of the vacuum dust collector system itself.

Response: These two operations were moved to the insignificant activities section of the permit, therefore this comment is no longer applicable.

Comment #27 Page 25 of 39, Specific Recordkeeping Requirements, Condition 5.d.v. – See Comment 4.

Response: These two operations were moved to the insignificant activities section of the permit, therefore this comment is no longer applicable.

Comment #28 Page 28 of 39, Insignificant Activities – Does the Department intend to address the roller printers on Lines 1 and 5 in the Title V permit application? A construction permit application for these units was submitted to the Department on December 21, 1998. The Department verbally indicated that the units do not need to be permitted at this time. Would they not, therefore, be considered insignificant activities?

Response: These roll printers have been added to the permit under the respective operating lines.

Comment #29 Page 29 of 39, Emission Limitations – The Department indicates that modeled off-site concentrations of gaseous fluorides shall not exceed the limitations. Is the Department requiring modeling after each required kiln stack test?

Response: After each respective kiln is stack tested and verified, modeling will have to be completed to update off-site ground level impacts, and to verify that the gaseous HF standard will not be exceeded. This requirement was added to the permit.

Comment #30 Page 29 of 39, Testing Requirements – Condition 3 indicates that a stack test must be performed on Kiln 4 within 180 days of the effective date of the permit. Does the Department intend to require stack testing on the other kilns during the life of this permit? If so, Florida Tile would appreciate a schedule of those tests for planning purposes?

Response: Item **3. Testing Requirements** under **SECTION D - SOURCE EMISSION LIMITATIONS AND TESTING REQUIREMENTS** of this permit has been made more specific. It requires that Kilns #3 and # 4 (Tunnel Kilns) be tested within 180 days of the effective date of the permit and that Kilns 1, 2 and 5 shall be stack tested using Method 130 within the life of this permit.

Comment #31 Page 30 of 39, Specific Control Equipment Operating Requirements, Condition 7 – The parameters proposed in the draft permit offer Florida Tile no flexibility in its manufacturing operations without modification of the Title V permit. Florida Tile has proposed alternate operating parameters that offer the company some flexibility but still place limitations on its manufacturing operations. Additionally, Florida Tile operates in 12-hour shifts and records will be maintained per 12-hour shift. Those changes have been made to our markup of the draft Title V permit.

Response: These changes have been incorporated into the title v permit.

Comment #32 Page 33 of 39, Condition F.5. – In this condition, the Department is requiring that reports of “any monitoring required by the permit” be submitted to the Frankfort office every six months. Does the Department intend that all monitoring information (logs of process rates, hours of operations, etc.) be submitted to the Department in these semi-annual reports?

Response: No. A report summarizing the items required to demonstrate compliance should be generated. Many sources submit summary reports in spreadsheet format. The regional office should be consulted prior to the first report submittal. Raw data such as charts, production records, etc. should be kept on site for the inspector to review if so requested. The permit was changed to indicate a summary report.